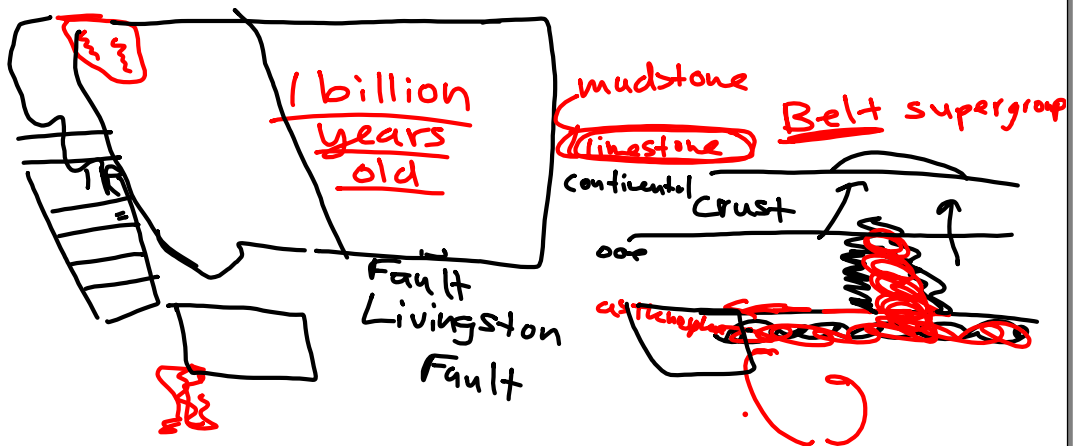
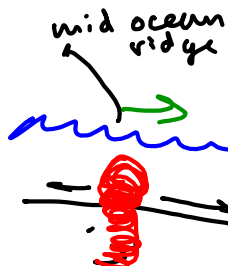


# Bellringer

→ Where do mountain ranges form?  
(at what type of plate tectonic boundary)

→ Explain how convergent, divergent, and transform plate boundaries work.

→ When did Pangea break-up?



Grade: 9th  
Subject: Earth Science  
Date:

1 Wegener thought that all the continents were once together in one large continent called...

A Gondwana

B Laurasia

C Eurasia

D Pangaea

2 \_\_\_\_\_ is the term for when two plates collide

Convergent

3 The global positioning system can map the rate of tectonic plate movement using

- A radio waves
- B lasers
- C visual markers
- D motion detectors

4 A possible result of plates moving along a transform boundary is ...

A oceans

B convection

C earthquakes

D sea-floor spreading

.

.

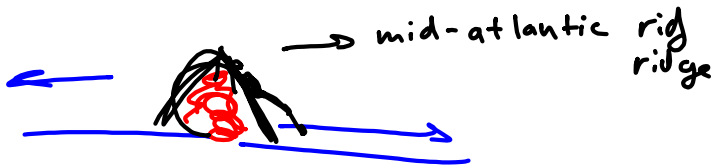
5 \_\_\_\_\_ is the term for where two plates are moving away from each other.

*Divergent*

.

6 \_\_\_\_\_ is where oceanic lithosphere slides downhill due to gravity.

Ridge push



7 \_\_\_\_\_ is the process of moving layers of rock by heating and cooling.

Convection

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.

8 \_\_\_\_\_ is where two plates are moving past each other horizontally.

Transform

.

.

Bellringer


Quakefeed

→ How are earthquakes related to plate tectonics?


Tremor tracker

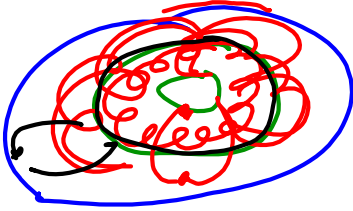
→ How do plate tectonics move?

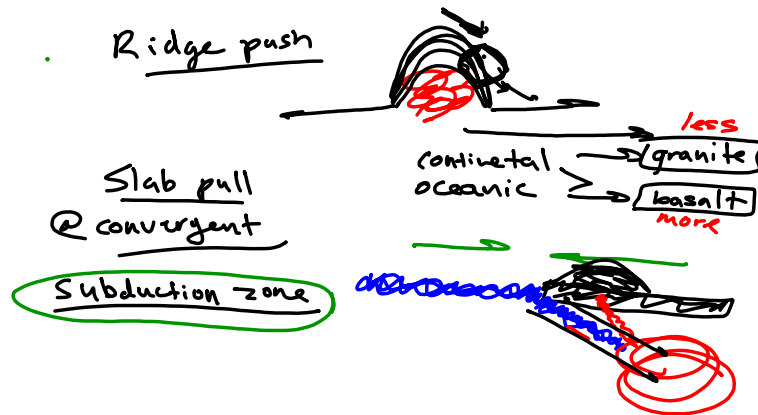
The cause ... Explain:



convection occurs in Mantle







continental crust  
 ↳ **Rifting** = break apart  
 come together = **accretion**  
**terrane**

Grade: 9th  
 Subject: Earth Science  
 Date:

1 \_\_\_\_\_ is the process by which continents break apart.

*Rifting*

2 The single large ocean that surrounded Pangaea was called...

A Laurasia

B Gondwanaland

C Panthalassa

D Tethys Sea



- 3 A \_\_\_\_\_ is a piece of lithosphere that has a unique geologic history from that of the surrounding lithosphere.

terrane

- 4 The process by which a terrane becomes part of a continent is called \_\_\_\_\_.

accretion

5 Small volcanic islands or underwater mountains are called \_\_\_\_\_.

Seamount

6 Small coral islands are also called seamounts.

True

False

island arc

7 The formation of mountain ranges can cause changes in climate.

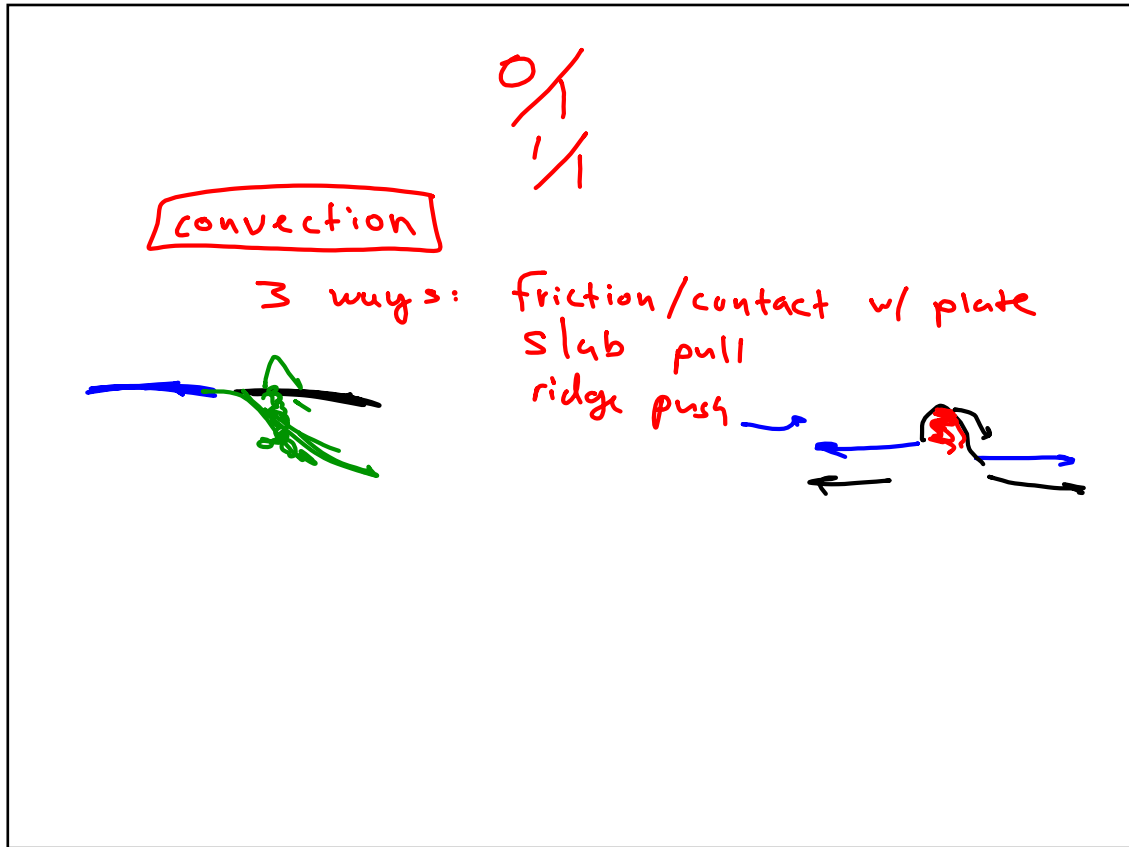
True

False

.

## Bellringer

- older Island → What do we call a chain of volcanic islands? island arc
- What do we call a mountain range in the ocean? seamount
- What are the 3 plate boundaries?
- What causes plates to move?



Grade: 9th  
Subject: Earth Science  
Date:

1 Support for Wegener's hypothesis of continental drift includes evidence of changes in...

A climatic patterns

B Panthalassa

C terranes

D subduction

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2 New ocean floor is constantly being produced through the process known as ...

A subduction

B continental drift

C sea-floor spreading

D terranes

.

.

3 An underwater mountain chain that formed by sea-floor spreading is called a ...

- A divergent boundary
- B subduction zone
- C mid-ocean ridge
- D convergent boundary

.

)

4 Scientists think that the upwelling of mantle material at mid-ocean ridges is caused by the motion of tectonic plates and comes from...

- A the lithosphere
- B terranes
- C the asthenosphere
- D rift valleys

.

.

5 The layer of plastic rock that underlies the tectonic plates is the ...

- A lithosphere
- ☒ B asthenosphere
- C oceanic crust
- D terrane

6 The region along tectonic plate boundaries where one plate moves beneath another is called a ...

- A rift valley
- B transform boundary
- ☒ C subduction zone
- D convergent boundary

7 Two plates grind past each other at a ...

- A transform boundary
- B convergent boundary
- C subduction zone
- D divergent boundary

8 Convection occurs because heated material becomes ....

- A less dense and rises
- B denser and rises
- C denser and sinks
- D less dense and sinks



- 9 The coasts of Africa and South America began rifting about 150 million years ago. Today, the coast of South America is about 6,600 km from the coast of Africa. Using the equation  $\text{VELOCITY} = \text{DISTANCE} / \text{TIME}$ , determine how fast the continents moved apart in millimeters per year (mm/year)?

$$44 \text{ mm} \quad \frac{6,600 \overset{\text{km}}{\rightarrow} \overset{\text{m}}{(1,000)} \overset{\text{mm}}{(1,000)}}{150,000,000} = \frac{44 \text{ m}}{1 \text{ yr}}$$

- 10 Rocks that form at mid-ocean ridges become magnetized because as the rock cools, the magnetic fields of some of the minerals align with Earth's magnetic field, which stays in the rock as the rock solidifies.

True

False

11 The process by which a continent breaks apart is \_\_\_\_\_.

rifting

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12 \_\_\_\_\_ was the large ocean that surrounded Pangaea.

~~Pan~~

Panthalassa

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13 A chain of volcanic islands, like Japan or Hawaii, are also known as a(n) \_\_\_\_\_ (two words).

island arc

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14 \_\_\_\_\_ is the study of the magnetic properties of rock.

.

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15 Convection is the movement of heated material due to differences in density that are caused by differences in temperatures.

.

,

16 The force exerted by a sinking plate, due to density, is called slab pull.

True

False

.

,

17 All of the continents that exist today contain large areas of stable rock, called \_\_\_\_\_.

Cratons

18 The process by which a terrane becomes part of a continent is called \_\_\_\_\_.

accretion

19 Pangaea first broke into two large continents called \_\_\_\_\_ and \_\_\_\_\_.

A Indiasia

B Godwanaland

C Laurasia

D Andetonoland

20 Pangaea broke apart roughly \_\_\_\_\_ million years ago.

200

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